

### **REMARKS**

Claims 1-9 and 16-20 are pending in the present application. Claims 1, 2-4, 6, 8, 9 and 16 have been amended by this Amendment. New claims 17-20 have been added by this Amendment. Claims 17-20 are a renumbered version of claims 11-14. Claims 10-15 have been canceled without prejudice or disclaimer.

### **Allowable Subject Matter**

Applicants express their appreciation for the Examiner's indication that claims 1-9, 11-14 and 16 would be allowable if rewritten to overcome the rejections under 35 USC § 112, second paragraph. Applicants believe that in light of the amendments and remarks herewith that claims 1-9 and 16-20 are allowable.

### **Claim Objections**

Claim 1 has been objected to because the Examiner asserts that each unit should be listed in a separate line with a colon after the phrase "said device comprising", each wherein clause should be listed in a separate line after the listing of the units, the limitation "the decision means with the output of the decoder" should be changed to "the decision means along with the output of the decoder", the limitation "said backward filter" should be changed to "said recursive backward filter" in lines 6 and 14 of claim 1 and the limitation "the subtractor" should be changed to "the subtraction means". Claim 1 has been amended as suggested by the Examiner and to improve the clarity of the claim.

Claims 8 and 9 have been objected to because the Examiner asserts that claims 8 and 9 fail to further limit the subject matter of a previous claim. Claim 8 has been amended to recite “A system” rather than “The system”, and so it is believed to now be in proper form.

Claims 11-14 have been objected to because the Examiner asserts that dependent claims 11-14 are based on independent claim 16 and, thus, their numbering should follow independent claim 16. It is believed that is not a proper basis for objecting to the numbering of claims when claim changes are made during prosecution. Perhaps this is why the Examiner failed to cite any support for it in the Rules and/or the MPEP. The claim numbering is normally changed by the Examiner after allowance so that the issued claims conform to such a numbering scheme. Nevertheless, in order to accommodate the Examiner, claims 11-14 have been rewritten as new claims 17-20 which depend from independent claim 16.

Claim 16 has been objected to because the Examiner asserts that the limitation “said decoder” should be changed to “said channel decoder”. Claim 16 has been amended as suggested by the Examiner and to improve the clarity of the claim.

Accordingly, Applicants now request that the objections to the claims be withdrawn.

#### **Claim rejections under 35 USC § 112**

Claims 1-9, 11-14 and 16 have been rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

The Examiner asserts that there is insufficient antecedent basis for the following limitations in claim 1: “the output of a decoder” in line 5, “the output of said backward filter” in line 6, “the output data of the forward filter” in line 7, “the subtracted data” in line 7, “the input

of the decision means” in line 8, “weighted inputs and outputs” in line 10 and “the output of the subtraction means” in line 11. Claim 1 has been amended to provide proper antecedent basis for each of the foregoing limitations. Applicants also point out that support for “weighted inputs and outputs” is found at least in paragraphs [0022]-[0023] and [0026] of Applicants’ published application.

The Examiner asserts that the limitation “a decoder” in line 5 and “a channel decoder” in line 9 are being considered as being the same because Applicants’ specification and drawings describe only one decoder presented in the device. The claims have been amended to clarify that these limitations are a single decoder that is a channel decoder.

The Examiner asserts that he considers the limitation “a sphere decoder” in line 3 of claim 2 as being the same as the decoder recited in claim 1. Applicants respectfully disagree. Claim 2 has been amended to clarify that the decision means include a sphere decoder. Paragraphs [0066] through [0068] and [0080] of Applicants’ published application explain that an algorithm of the decision means may be a sphere decoder algorithm. Moreover, paragraph [0034] explains that the sphere decoder generates flexible information for the channel decoder. Accordingly, the sphere decoder is not the same as the channel decoder.

The Examiner asserts that there is insufficient antecedent basis for the following limitations in claim 16: “weighted inputs and outputs” in line 4 and “the data” in line 9. Claim 16 has been amended to provide proper antecedent basis for these limitations. Applicants point out that support for “weighted inputs and outputs” is found at least in paragraphs [0022]-[0023] and [0026] of Applicants’ published application.

The Examiner asserts that the limitation “probabilistic information” in line 14 of claim 16 indicates that probabilistic information is information generated by the decoder interference

canceller iterative block (feedback filter) and, thus, cannot be information transmitted to the channel decoder. Claim 16 has been amended to clarify this limitation as "a statistic" in order to correspond to the disclosure in Applicants' specification.

The Examiner asserts that there is insufficient antecedent basis for the limitation "recursive filtering" in line 2 of claim 11. Claim 11 corresponds to new claim 17. New claim 17 provides proper antecedent basis for this limitation.

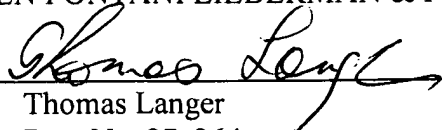
In view of the above, Applicant respectfully requests the rejections under 35 USC § 112, second paragraph, be withdrawn.

### **CONCLUSION**

Accordingly, in view of the above-presented amendments and remarks, reconsideration of the objections and rejections, and allowance of each of the claims pending in the present application is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number set forth below.

Respectfully submitted,  
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